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An analysis of alternative shore activity personnel execution to improve productive work

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AN ANALYSIS OF ALTERNATIVE SHORE ACTIVITY PERSONNEL EXECUTION TO IMPROVE PRODUCTIVE WORK

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June 2014

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This research examines the use of alternative workweeks to improve productive work at naval activities ashore. These activities have limited control over the number of personnel assigned by the Bureau Naval Personnel. Attempts to increase productivity must be achieved with personnel assigned. Therefore, potential increases in productivity and retention must be accomplished through innovative leadership. In order to increase productivity from personnel assigned, it is necessary to improve morale and command buy-in. This might be accomplished by changing how the Navy Standard Workweek (NSW) is executed. This research examines theoretical productivity increases under alternative workweeks using the established NSW as a benchmark, as set forth in OPNAVINST 1000.16K, *Navy Total Force Manpower Policies and Procedures.*

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AN ANALYSIS OF ALTERNATIVE SHORE ACTIVITY PERSONNEL EXECUTION TO IMPROVE PRODUCTIVE WORK

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Submitted in partial fulfillment of the requirements for the degree of

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AN ANALYSIS OF ALTERNATIVE SHORE ACTIVITY PERSONNEL EXECUTION TO IMPROVE PRODUCTIVE WORK

ABSTRACT

This research examines the use of alternative workweeks to improve productive work at naval activities ashore. These activities have limited control over the number of personnel assigned by the Bureau Naval Personnel. Attempts to increase productivity must be achieved with personnel assigned. Therefore, potential increases in productivity and retention must be accomplished through innovative leadership. In order to increase productivity from personnel assigned, it is necessary to improve morale and command buy-in. This might be accomplished by changing how the Navy Standard Workweek (NSW) is executed. This research examines theoretical productivity increases under alternative workweeks using the established NSW as a benchmark, as set forth in OPNAVINST 1000.16K, *Navy Total Force Manpower Policies and Procedures.*

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LIST OF ACRONYMS AND ABBREVIATIONS

AIMD	Aviation Intermediate Maintenance Depot
CG	Guided Missile Cruiser
CNO	Chief of Naval Operations
DDG	Guided Missile Destroyer
ERB	Enlisted Retention Board
FFG	Guided Missile Frigate
HSM	Helicopter Strike Maritime
MFT	Missions, Functions and Tasks
NSW	Navy Standard Workweek
OCAI	Organizational Cultural Assessment Instrument
PTS	Perform to Serve
SHORTSTAMPS	Shore Requirements, Standards, and Manning Planning System
SQMD	Squadron Manpower Document
SMRDP	Shore Manpower Requirement Determination Program
SSN	Submarine Nuclear (Fast-Attack)
SSBN	Submarine Ballistic Missile Nuclear (Boomer)
SSGN	Submarine Guided Missile Nuclear
UIC	Unit Identification Code

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I. INTRODUCTION

The United States Navy has always sought to reduce costs and increase efficiency of personnel. Since 1995 the U.S. Navy has been exploring manning reductions and force shaping to balance the budget. Many personnel initiatives have been explored and some have succeeded at increasing readiness while decreasing costs. While reductions in manning should reduce overall costs, there may be unforeseen long term retention expenses. A new approach to increasing efficiency at the organizational level may help increase productive work hours, decrease costs, and help to retain more qualified personnel.

In CY 2010 the United States Navy total force, officers and enlisted, end strength, was 324,400 members. This is a reduction in end strength of 13 percent, down from 373,193 when compared to CY 2000. Some of this reduction may be attributed to a decrease in the number of U.S. Navy ships. In 2000, the United States had a 318-ship Navy, and in 2010 it was a 288-ship Navy. The Navy lost one aircraft carrier, while Guided Missile Destroyer's (DDG) and Guided Missile Cruiser's (CG) were a wash at minus five CG's and plus five DDG's, both with very similar crew compliment. The Navy shrunk its Guided Missile Frigate (FFG) and Fast-attack Submarine (SSN) fleet by six and three, respectively. The Ballistic Missile Submarine's (SSBN) and Guided Missile Submarine's (SSGN) are in the same category as DDG and CG with a minus four plus four tradeoff. The Navy also reduced by 18 the number of amphibious and auxiliary ships during that 10 year period. This accounts for roughly a ten percent drop in ships and does not directly explain the 13 percent end strength decline. Navy end strength from 2005 to 2014 has been largely driven by Perform to Serve (PTS) and Enlisted Retention Boards (ERB) to shape the force down to 266,021 enlisted personnel. ERB and PTS succeeded at shaping the force structure but were not successful at increasing retention in undermanned rates. A new approach at balancing the force is needed to ensure the Navy maintains its readiness while further reducing cost. (Naval History and Heritage Command n.d.)

The Navy is also moving to align with civilian workforces, both in pay schedules and work life balance. Although the demand on the Navy workforce at sea will never be comparable to a civilian job, there are many ways that the Navy can increase work life balance at non seagoing commands. The push for recognition of the Alfred P. Sloan award and their attempt to be one of the top 500 desired workplaces indicate the Navy's desire to balance work and home life for its service members.

Efficiency programs that have been tried in the past include the USS Yorktown and plans for manning littoral combat ship. These efficiency programs seek to use a smaller workforce to complete the tasks usually assigned to a much larger force. The USS Yorktown smart ship program sought efficiency through innovation and technology to reduce effective crew size. The littoral combat ship is also another example of efficiency programs where a smaller ship with a smaller crew complement is capable of performing the same duties as a larger ship with a larger crew complement. These concepts are discussed in depth in the background Chapter II.

Currently, there are no alternative working programs being used to increase efficiency for enlisted personnel at shore-based commands. The current system generally uses the Navy standard ashore workweek and produces 33.38 hours of productive work per week. An in depth discussion of this calculation is given in chapter three. It is important to know that the Commanding Officer of each unit has the responsibility to apply his assigned personnel in the most efficient manner. Some Commanding officers already use an alternative workweek for civilian personnel with gains seen from its implementation. This project seeks to analyze different types of alternative workweeks, their feasibility and implementation strategies for shore-based commands.

A detailed analysis of alternative workweeks and their associated costs or benefits is needed prior to implementation. Benefits to an alternative workweek may include a decrease in needed work force, an increase in enlisted retention and a more professional workforce. Negative impacts of an alternative workweek may include decreased capacity for tasks, increased costs to outside organizations and increased costs of implementation. Many of these costs and benefits will be similar and there may not be one definitive strategy for all commands.

II. CURRENT NAVY PRACTICE

A. THE NAVY STANDARD WORKWEEK

Navy manpower requirements are based on mission requirements and are set forth in OPNAVINST 1000.16K, *Navy Total Force Manpower Policies and Procedures*. This instruction promulgates standard workweeks for shore-based activities as well as deployable activities, which serve as the basis for manpower requirements. Commanding Officers can choose to utilize these workweek calculations to employ their assigned personnel, or to execute an alternate workweek. Commanding Officers generally employ the Navy Standard Workweek (NSW) with minor modification.

OPNAVINST 1000.16K states that an integral part of manpower requirements determination is the establishment of standard workweeks. Workweeks for sea duty units and detachments are based upon operational requirements under projected wartime conditions. Workweeks for ashore units are based on peacetime conditions and are used by the CNO in the documentation of manpower requirements. The Navy's Standard Workweeks are key elements in the calculation of Navy manpower requirements. They are guidelines for sustained personnel utilization under projected wartime or peacetime conditions and are not intended to reflect the limits of personnel endurance. They are for planning purposes only and are neither restrictive nor binding on commanders or commanding officers in establishing individual command working hours. Daily workload intensity is a function of operational requirements; as such, the actual day-to-day management of personnel is the responsibility of the commanding officer. Under certain circumstances it may become necessary to exceed the standard workweek; however, extending working hours on a routine basis could adversely affect life-work matters such as morale, retention and safety. As policy such extensions should be avoided.

Some possible alternative workweek schedules are given in Chapter III and are examined on three axes; volume of work completed, flexibility and schedule. Volume of work is the most easily calculated metric and will determine gains in productive work hours. Flexibility and scheduling are more qualitative analysis axes, whose assumptions

will need to be substantiated with other research. Ultimately, if efficiency programs work and decrease costs while utilizing current force structure they should be implemented and tested to see what level of return might be produced.

1. Basic Workweek Considerations

The nature of Navy work, duty and watch requirements makes it difficult under all circumstances to fix work periods on a daily or weekly basis. Averaging techniques are, therefore, employed in determining the elements comprising the various workweeks. As a result, workweeks are not necessarily an expression of the maximum weekly hours that may be expended by an individual in any particular week, but rather regulate the average weekly hours that will be expended on a monthly or annual basis. Average weekly hours expressed in each Navy Standard Workweek are guidelines for sustained personnel utilization. The workweek for activities where accompanying dependents are authorized is based on a five-day, 40-hour workweek and is explained in Table 1.

Detailed Description of Navy Standard Workweek
Aircraft Squadrons – Military Personnel
Shore-Based Squadrons (e.g., FRS, HT, and VT) Where Accompanying Dependents are Authorized:

Total hours available weekly		40.00 Hrs
Non-Available Time		
Training	(1.47) Hrs	
Service Diversion	(1.00) Hrs	
Leave	(2.62) Hrs	
Holidays	(1.53) Hrs	
Total	-6.62	
Total Hours Available for Productive Work		**33.38 Hrs**

Table 1. Navy Standard Workweek description

B. SHORE-BASED MANPOWER

1. Shore Manpower Requirements Determination Program

Shore-based manpower requirements are based on the Shore Manpower Requirement Determination Program (SMRDP), which is the successor to the Navy Shore Requirements, Standards, and Manning Planning System (SHORTSTAMPS), by Unit Identification Code (UIC). It is a program that looks to systematically determine the manning requirements for all shore activities. SHORTSTAMPS did not work because it did not have full coverage of shore activities and was phased out in 1987. SMRDP Processes were developed in 1987 in order to increase the utility of manpower requirements in daily decision-making across all levels of Navy management and leadership. Ultimately the SMRDP is the minimum quantitative and qualitative manpower requirements for shore activities. (CNO, Shore Man-power Requirements Determination Process 2008)

SMRDP is a process that provides a systematic means of determining and documenting manpower necessary to accomplish an approved activity's tasking. The processes rely on reviewing, measuring and assessing workload in terms of an activity's Mission, Functions and Tasks (MFTs). Each shore activity is responsible for developing its own MFTs. The largest drawback to the MFT system is that in the determination of the MFTs because there is no standardization between squadrons for number and types of MFTs.

2. USS Yorktown (CG-48)

The U.S. Navy has always been aware that manning (as opposed to manpower) was a crucial element to mission success. As such the modern Navy has sought out many initiatives to not only reduce the manning required but also improve the effectiveness and efficiency of those sailors. In 1995, on the heels of a paper distributed by the Naval Research Advisory Committee the Navy undertook a radical step in that direction aboard the USS Yorktown. (Moore and Hattiangadi 2002) The goal was to determine if manning could be reduced and efficiency maintained using innovation, contemporary technology, and a more diversely trained crew. The Yorktown leadership was given

extreme latitude in determining how the mission was met. What they came up with was in stark contrast to any other ship on the waterfront. The crew was trained on automated equipment that reduced the number of required watches and thus freed up manpower to be directed elsewhere. Instead of allowing inefficiency to persist the command then reduced the number of personnel required on "Duty" in a given 24-hour period. The sailors onboard were incentivized to actively seek out qualifications that promised to further reduce the duty requirement. Eventually what was observed was a completely new type of crew. Watch standers were qualified from every department on the ship. Engineering watches were stood by combat systems personnel, technical stations manned by supply department sailors and every watch station known and stood by virtually every sailor onboard. The result was a reduction of the duty section required on board to just what was needed to get the ship underway, using the automated systems, and to combat any known damage control issue. Eventually Yorktown would achieve an astounding 12 duty sections in homeport. This meant that the crew effectively had two days of 24 hour duty in a given month which in turn increased moral, reduced leave and special liberty request and arguably increased the quality of the crew members in that they held numerous cross rated qualifications.

The leadership sought to further the efficiencies observed in the duty make-up and apply them to the workweek as well. They determined that in a standard workday the average sailor only worked about three to four hours doing productive work. This accounts for a 0730 to 1630 workday in which the first 30 minutes are used for Quarters. The following hour was used to disseminate the work to be done and gathering of required supplies. The following two hours are utilized for productive output. It is now 1100 and lunchtime, which took between one and two hours. At 1300 return to the ship with another 45 minutes to an hour to collect tools and begin work. Two hours there, and now it is 1600 and time for "sweepers" and a 1630 knock off.

Once the leadership understood how inefficiently they were utilizing the crew's day they put forth an initiative that garnered more production in seemingly less man-hours. They altered the standard workweek. The new day would begin promptly at 0700 and end at 1400. An integral part of the plan was to eliminate Quarters with the exception

of Wednesday and also the lunch break. This required crew buy-in and was achieved through the perception that they could choose between lunches or to be off every day at 1400. What was observed was roughly six hours of productive work per crewmember. This workweek also seemed to increase morale, and coupled with the limited duty days per month, instilled greater job appreciation and increased retention. This was all done with 10 percent fewer sailors than the other ships in the same class.

There have been no empirical studies of the ship's readiness or performance, but Yorktown recently won the Golden Anchor Award for Personnel Retention and last year received the Battle 'E' Award for material condition. While the Yorktown M+l requirement is 337 sailors, the average ship in the CG-47 class requires 358. (Moore and Hattiangadi 2002)

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III. ALTERNATIVE WORKWEEKS

> When considering work-life balance outcomes it is useful to delineate two dimensions of working time arrangements: the volume and the schedule of the hours worked. The volume of hours worked clearly impacts on the amount of time that is left for other activities. But the manner in which hours are scheduled is also important for the quality of the fit with domestic schedules and wider social life rhythms Work schedules encompass both: the times when hours are worked, including exposure to non-standard work rhythms (working during the evening, at night, at weekends or on rotating shifts); and the type of flexibility, which includes fixed and predictable schedules, those that vary frequently according to the needs of the employer (employer-led flexibility) and those that offer some autonomy for workers to vary when they work, including working from home (employee-led flexibility).
>
> – Collette Fagan, "The Influence of Working Time Arrangements On Work-Life Integration or 'Balance,'" 2011

A. METHODOLOGY AND ASSUMPTIONS

The United States Navy seeks to find the right fit between its sailors and the commands to which they are assigned. Often times a sailors' operational tempo is used to gauge the necessity for a shore billet. Taken as a whole career, and on an individual basis, it is easy for detailers to tailor the situation to the circumstances. While discussing work week calculations on a broader basis, and with no specific individual under scrutiny, it becomes difficult to find the right "groove" for an individual. The Navy has taken an approach utilizing averaging techniques in order to better understand and predict the useful product of a scheduled workweek. Because of these averaging techniques, a workweek calculation does not just represent the productive work for one week, but rather it encompasses the entire calendar for a month or year.

The following theoretical calculations have been developed by applying the Navy Standard Workweek (NSW) assumptions found in OPNAVINST 1000.16K to proposed alternative workweeks. First, by applying the standard workweek assumptions to alternative workweeks allows for fewer days to be worked. While each week maintains the same number of scheduled hours, each work day in the alternative work week has a

higher volume of work per day. Next, shifting workweeks around holidays so as to not lose any production days the negative productive hours calculated in the NSW can be removed from the theoretical calculation. Finally, the key assumption is made. Because of the flexibility of the alternative workweeks presented, it is assumed that less leave will be taken because there are more Fridays and Mondays that are not scheduled. This assumption is equal to 20 percent of the total leave taken per year because there are now 18 percent less work days in the year. This assumption is not founded in science but intuition and therefore the only issued numbers are those calculated with a full complement of leave taken per week. The overall assumption is that average weekly hours expressed in each NSW are guidelines for sustained personnel utilization. Losses due to Training, Service Diversion, Leave and Holidays for the basic NSW ashore are shown in Table 2.

Training is an activity of an instructional nature, which contributes directly to combat readiness and deducts from the individual's capability to do productive work. Training hours are factored to reflect those scheduled events (e.g., general drills, engineering casualty damage control) for all hands. Hours indicated have been standardized for Condition III in Squadron Manpower Documents (SQMD).

Service Diversion consists of actions required of military personnel by regulations or the nature of shipboard/staff routine. Service Diversion includes, but is not limited to, the following types of activities: Quarters, inspections, and sick call, other administrative requirements Commanding Officers Non-Judicial Punishment, participation on boards and committees, interviews, and non-training-related assemblies as well as flight and hangar-deck integrity watches. The months of February and November were analyzed due to their applicability in terms of working hours. February is the shortest month each year and also incorporates a Monday holiday in Presidents Day. November is a standard month in terms of length but consistently incorporates a mid-week holiday in the form of Thanksgiving. It is therefore reasonable to assume that if an alternate workweek can be shown to increase efficiency in these two months then they are applicable across the

calendar. A visual representation of the OPNAVINST 1000.16K NSW is shown in Tables 3 and 4 for a single service member during the months of February and November 2014 while Figures 1 and 2 show a breakdown of those scheduled hours.

Detailed Description of Navy Standard Workweek

Aircraft Squadrons – Military Personnel

Shore-Based Squadrons (e.g., FRS, HT**,** and VT) Where Accompanying Dependents are authorized:

Total hours available weekly		40.00 Hrs
Routine is 8 hours per day, 5 days per week, excluding meal hours		
Non-Available time		
Training	(1.47) Hrs	
Service Diversion	(1.00) Hrs	
Leave	(2.62) Hrs	
Holidays	(1.53) Hrs	
Total	-6.62	
Total Hours Available for Productive Work		**33.38 Hrs**

Table 2. Navy Standard Workweek description

Navy Standard Workweek						
Feb-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
9	10	11	12	13	14	15
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
16	17	18	19	20	21	22
Day Off	Presidents Day	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
23	24	25	26	27	28	
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	
19 Workdays X 6.68 hrs productive work per day = 126.84 productive work hours in Feb 2014						

Table 3. Navy Standard Workweek February 2014

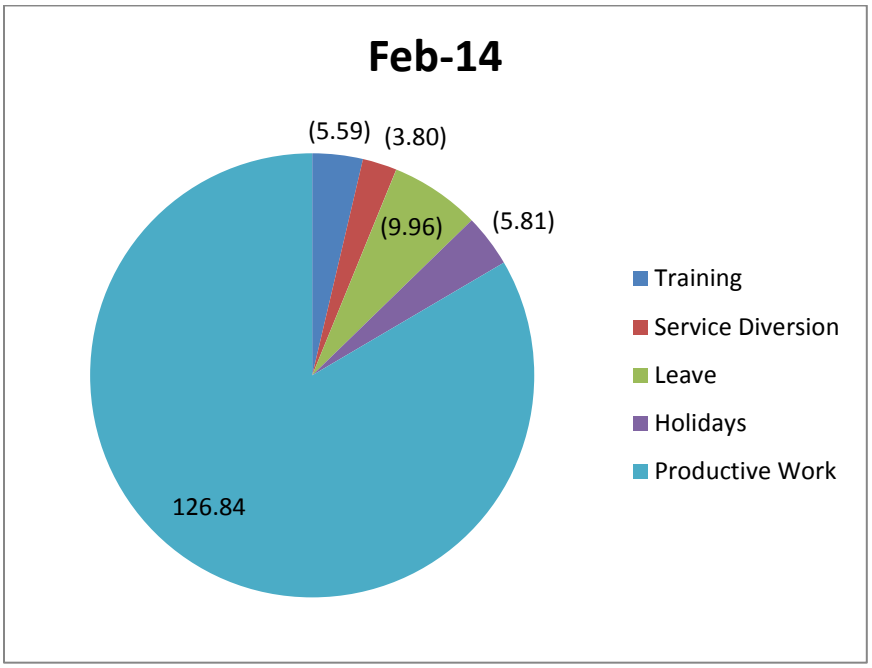


Figure 1. Navy Standard Workweek February 2014

Navy Standard Workweek						
Nov-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
9	10	11	12	13	14	15
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
16	17	18	19	20	21	22
Day Off	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Work 6.68	Day Off
23	24	25	26	27	28	29
Day Off	Work 6.68	Work 6.68	Work 6.68	Thanksgiving	CO's Discretion	Day Off
30						
Day Off						
18 Workdays X 6.68 hrs productive work per day = 120.24 productive work hours in Nov 2014						

Table 4. Navy Standard Workweek November 2014

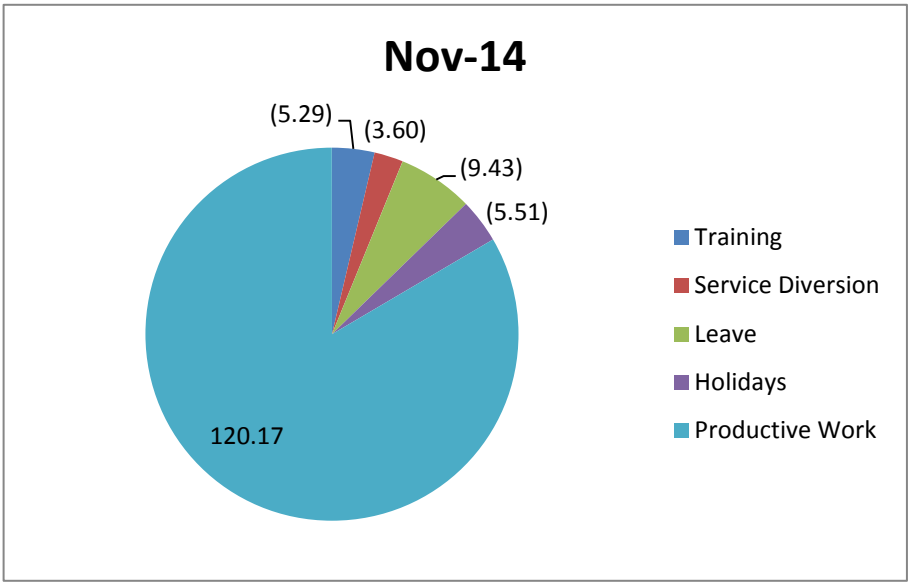


Figure 2. Navy Standard Workweek November 2014

This chapter discusses a Four/Ten, Four/Ten Split and an employee driven Floating schedule as alternatives to the NSW and their associated benefits and drawbacks. The alternatives have been derived using Volume, Schedule and Flexibility, parameters set forth by the International Labor Organization. The first alternative is labeled the Four Ten and consists of ten hours per day, four days per week. The second alternative work week is labeled the floating work week where enlisted members choose their work schedule within a normal range of working hours. The third alternative is labeled the split work week and is comprised of one half of the squadron working a four day ten hour per day work week and the other half work a standard week. In the split workweek, the half of the squadron that works the four day ten hour per day work weeks alternates.

(1) **Volume**. The three following alternatives are all standard full time, largely daytime and employer led working time arrangements. A standard full time work schedule as defined by the International Labor Organization is 36 to 48 hours of work per week. Alternatives to the standard full time schedule are: Long full-time (over 48 hours) as seen during the NSW at sea; reduced full time (30-35 hours); standard part time (20-30 hours) and marginal part time (less than 20 hours). Due to the military requirements on commands, standard full time is the only feasible options for the following alternative with the caveat that Commanding Officers can always extend working hours or issue liberty early

(2) **Schedule**. Largely daytime shifts means that the hours worked are generally during the daytime or there is no rotation of shifts. Data shows that exposure to nonstandard work rhythms can lead to fatigue, mental health issues and decreases self-health assessment of workers (Fagan, “The Influence of Working Time Arrangements On Work-Life Integration or ‘Balance’: A Review of the International Evidence” 2012). The Navy is no stranger to non-standard work rhythms but the goal of this shift in work time arrangement is to increase the efficiency of workers and therefore nonstandard work rhythms have been avoided in the given alternatives.

(3) **Flexibility**. The work hours in the following work week alternatives are employer led because the Commanding Officer always has the opportunity to change the

working hours by extending hours or issuing liberty early. Alternatives to employer led flexibility are employee led flexibility or fixed working hours. Due to the nature of most military work, there is a necessity for multiple personnel to be available to complete tasks. The schedule mismatch generated by employee led flexibility diminished the ability of organizations to complete tasks and is therefore infeasible. Fixed work hours are also infeasible because it limits the ability of the Commanding Officer to "surge" to complete tasks.

a. Four/Ten

The Four/Ten work week consists of four days per week and ten hours per day. The normal working days are Monday through Thursday. In weeks where there is a holiday that does not fall on a Friday the work week would shift to include Friday. In weeks where a holiday falls in the middle of the week such as July Fourth the day off and any extra time off would be at the discretion of the Commanding Officer. A sample calendar for the months of February 2014 and November 2014 to illustrate the holiday workweek shift are shown in Table 5 and Table 6.

The Four/Ten alternative work week can gain as much as 11 percent more productive work hours than the standard workweek because holidays are now no longer used in the calculation of productive work hours. As shown in Figure 3 and Figure 4 you can see the progression from the NSW to the proposed Four/Ten alternative workweeks in the measured February and November calendar months for 2014.

Four/Ten using 33.38/week						
Feb-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 8.34	Work 8.34	Work 8.34	Work 8.34	Day Off	Day Off
9	10	11	12	13	14	15
Day Off	Work 8.34	Work 8.34	Work 8.34	Work 8.34	Day Off	Day Off
16	17	18	19	20	21	22
Day Off	Presidents Day	Work 8.34	Work 8.34	Work 8.34	Work 8.34	Day Off
23	24	25	26	27	28	
Day Off	Work 8.34	Work 8.34	Work 8.34	Work 8.34	Day Off	
16 Workdays X 8.34 hrs productive work per day = 133.44 productive work hours in Feb 2014						

Table 5. Navy Standard Workweek calculations using Four/Ten February 2014

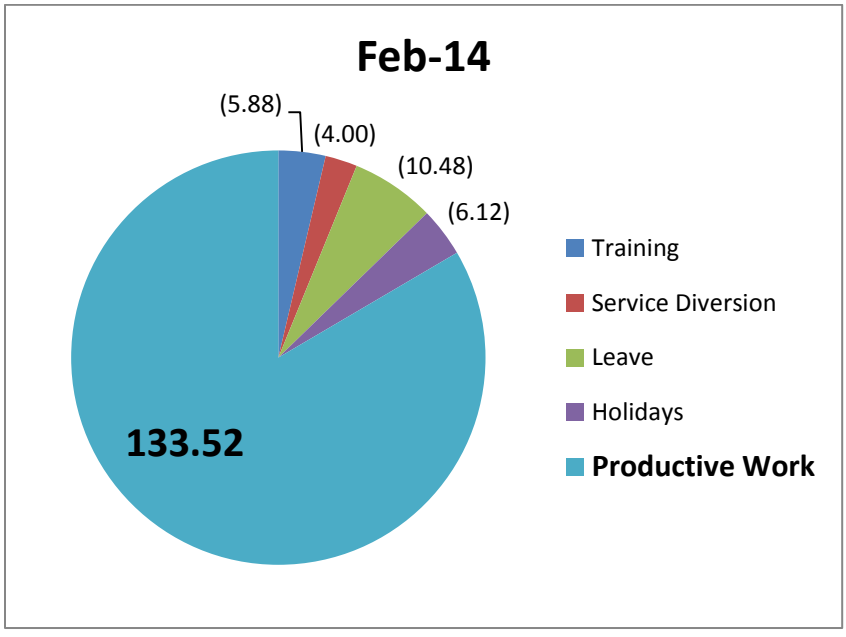


Figure 3. Navy Standard Workweek calculations using Four/Ten February 2014

Four/Ten using 33.38- holidays						
Nov-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off	Day Off
9	10	11	12	13	14	15
Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off	Day Off
16	17	18	19	20	21	22
Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off	Day Off
23	24	25	26	27	28	29
Day Off	Work 8.73	Work 8.73	Work 8.73	Thanksgiving	CO's Discretion	Day Off
30						
Day Off						

15 Workdays X 8.73 hrs productive work per day = 130.95 productive work hours in Nov 2014

Table 6. Navy Standard Workweek calculations without reduction for holidays using Four/Ten November 2014

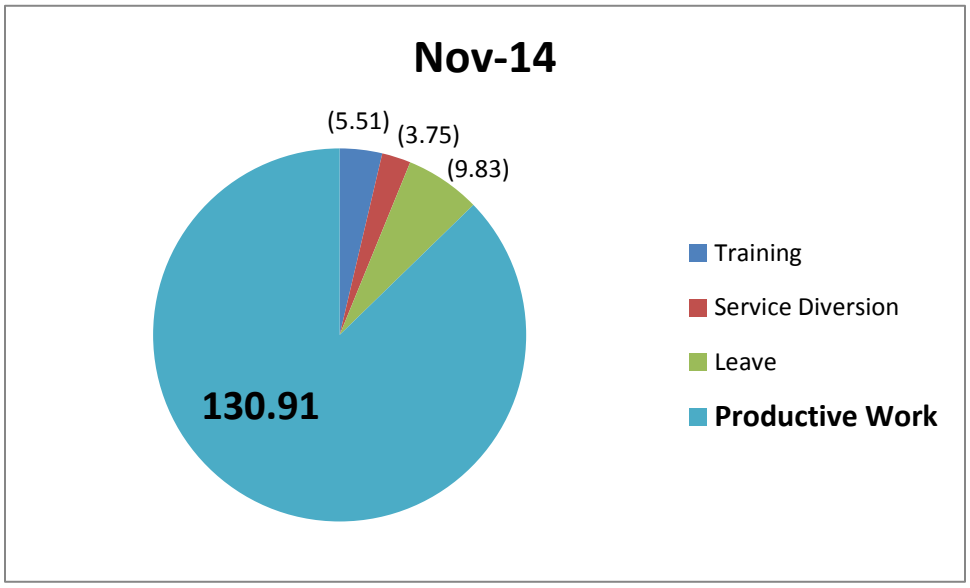


Figure 4. Navy Standard Workweek calculations without reduction for holidays using Four/Ten November 2014

b. Floating Workweek

The floating workweek is the only employee led flexible schedule. During any given period of time an enlisted member could choose when they were at work. Each enlisted member would work 40 hours per week and could choose which days they wanted to have off. This alternative is similar to many attempts to increase job satisfaction in the civilian job marketplace. This alternative may provide all the benefits included with both of the other alternative workweeks as shown in Table 7 and Table 8 along with Figure 5 and Figure 6.

Floating using 33.38- holidays						
Feb-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off
9	10	11	12	13	14	15
Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off	Day Off
16	17	18	19	20	21	22
Day Off	Presidents Day	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off
23	24	25	26	27	28	
Day Off	Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	
16 Workdays X 8.73 hrs productive work per day = 139.68 productive work hours in Feb 2014						

Table 7. Navy Standard Workweek calculations using Floating Work Week February 2014

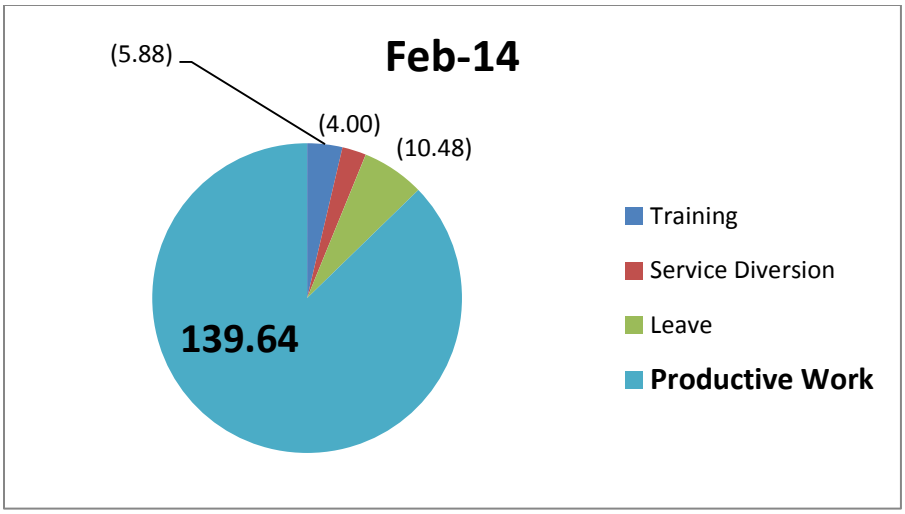


Figure 5. Navy Standard Workweek calculations using Floating Workweek February 2014

Floating using 33.38- holidays						
Nov-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 8.73	Work 8.73	Work 8.73	Work 8.73	Day Off	Day Off
9	10	11	12	13	14	15
Day Off	Work 8.73	Work 8.73	Work 8.73	Day Off	Work 8.73	Day Off
16	17	18	19	20	21	22
Day Off	Work 8.73	Work 8.73	Day Off	Work 8.73	Work 8.73	Day Off
23	24	25	26	27	28	29
Day Off	Work 8.73	Work 8.73	Work 8.73	Thanksgiving	CO's Discretion	Day Off
30						
Day Off						
15 Workdays X 8.73 hrs productive work per day = 130.95 productive work hours in Nov 2014						

Table 8. Navy Standard Workweek calculations using Floating Workweek November 2014

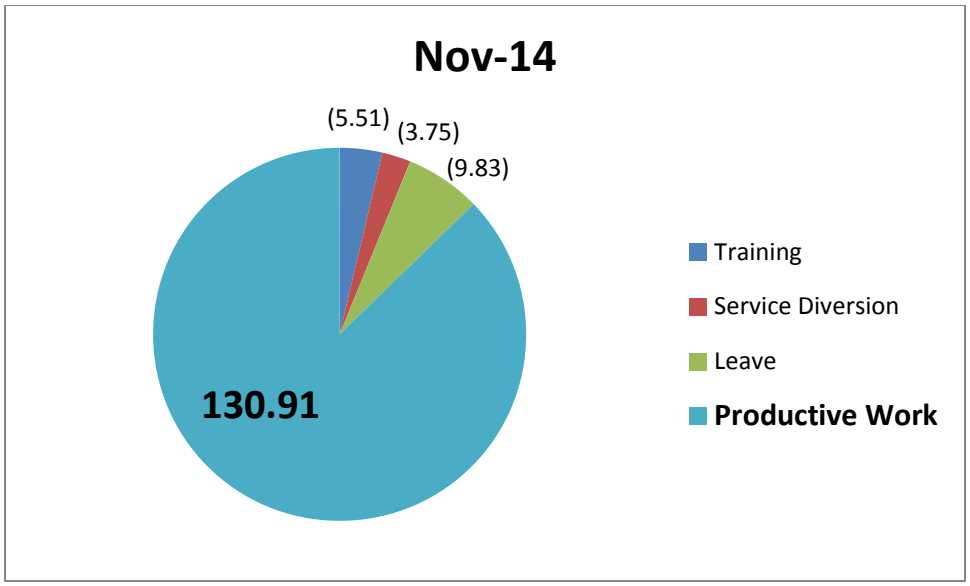


Figure 6. Navy Standard Workweek calculations using Floating Workweek November 2014

c. Four/Ten Split Alternative Workweek

The four/ten split workweek would split the squadron into two teams with equal qualifications. The first team "Gold" would transition to a four/ten workweek in week one while the other half of the squadron "Blue" would execute a standard Navy five/eight workweek. In week two the Blue and Gold teams would alternate which workweek they operated and would continue the cycle throughout the calendar year. The effectiveness of this alternative workweek using the entire enlisted force of HSM 40 is shown in Table 9 and Table 10.

Split using 33.38- holidays						
Feb-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 7.65	Work 7.65	Work 7.65	Work 7.65	Work 3.4	Day Off
9	10	11	12	13	14	15
Day Off	Work 7.65	Work 7.65	Work 7.65	Work 7.65	Work 3.4	Day Off
16	17	18	19	20	21	22
Day Off	Presidents Day	Work 7.65	Work 7.65	Work 7.65	Work 7.65	Day Off
23	24	25	26	27	28	
Day Off	Work 7.65	Work 7.65	Work 7.65	Work 7.65	Work 3.4	
16 Workdays X 7.65 hrs productive work per day + 3 Workdays X 3.4 hrs productive work per day = 132.6 productive work hours in Feb 2014						

Table 9. Navy Standard Workweek calculations for February 2014 without reduction for holidays applied to Four/Ten Split alternative workweek schedule

Split using 33.38- holidays						
Nov-14						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						Day Off
2	3	4	5	6	7	8
Day Off	Work 7.765	Work 7.765	Work 7.765	Work 7.765	Work 3.4	Day Off
9	10	11	12	13	14	15
Day Off	Work 7.765	Work 7.765	Work 7.765	Work 7.765	Work 3.4	Day Off
16	17	18	19	20	21	22
Day Off	Work 7.765	Work 7.765	Work 7.765	Work 7.765	Work 3.4	Day Off
23	24	25	26	27	28	29
Day Off	Work 7.765	Work 7.765	Work 7.765	Thanksgiving	CO's Discretion	Day Off
30						
Day Off						
15 Workdays X 7.77 hrs productive work per day + 3 Workdays X 3.4 hrs productive work per day = 130.075 productive work hours in Nov 2014						

Table 10. Navy Standard Workweek calculations for November 2014 without reduction for holidays applied to Four/Ten Split alternative workweek schedule

B. ANALYSES OF ALTERNATIVES

1. Gains in Productive Work Hours

Overall when analyzing any alternative work time arrangement to the current Navy Standard work week there is a gain in total productive hours. A compilation of total productive work hours for all three alternatives and the current Navy Standard Work-week is shown in Table 11.

	Days	Current	Four / Ten	Floating	Split
February	19	128.25	139.68	139.68	132.6
November	18	121.5	132.38	132.38	127.35
Total	37	249.75	272.06	272.06	259.95
Delta			22.31	22.31	10.2

Table 11. Productive hours per month

2. Benefits–Volume

a. Four/Ten

The four/ten alternative workweek would be effective at increasing the number of productive work hours per week because time lost working due to holidays is negated.

b. Floating

The calculated increases in productive work hours are the same for the floating work week as they are for the four ten work week.

c. Four/Ten Split

Given that calculations of the four/ten alternative workweek yield a gain of 14 hours per month the four/ten split alternative workweek will gain half that. The four/ten split workweek will also minimize the amount of time a squadron is unable to support other squadrons.

3. Benefits–Schedule

a. Four/Ten

The transition to the four/ten provides the enlisted member with 52 more days off per year and may lead to more productive work or a higher retention rate. Studies found that as stress levels increase production goes down. Since time off is one of the many ways that the Navy combats stress, it is logical to say that decreased stress will increase productivity and overall job happiness.

b. Floating

The benefits gained from a floating work week are not so easily quantifiable. The productivity of workers may increase due to the empowerment that they feel they have over their own work time arrangement.

c. Four/Ten Split

The Split work week is beneficial because it allows other organizations who rely on the command with the alternate work time arrangement to be serviced. Unlike the four/ten alternative schedule, the split work week schedule allows commands to remain fully functional on Fridays while only diminishing half their capacity to complete tasks.

4. Benefits–Flexibility

a. Four/Ten

The Four/Ten alternative work time arrangement is beneficial because the hours are employer led with opportunities to be increased or decreased based on demand. This steady work time arrangement allows for workers to enrich their social lives because of the extra days granted using this alternative.

b. Floating

The benefits associated with the floating work week are difficult to calculate because there are no set days on which to calculate productive work forecast. Potential benefits to be considered are the organizational benefits that are associated with freedom to choose work hours and individual empowerment.

c. Four/Ten Split

This hybrid alternative work week will minimize perceived drawbacks associated with working four days per week and will maximize the efficiency gained from the additional working hours.

5. Drawbacks–Volume

a. Four/Ten

Drawbacks to the four/ten are primarily external to the command. The interaction between commands is essential to the proper function of the military. The transition to the four day per week workweek also presents a challenge to commands that support seagoing commands that do not transition to the same alternative work week. In this situation the seagoing command may need support from an Aviation Intermediate Maintenance Depot (AIMD) on a Friday in order to maintain an underway schedule but find that AIMD does not conduct business on Fridays.

b. Floating

Drawbacks to the floating work week are minimized because there would be supervision of the hours scheduled for each worker. Supervisors would monitor the amount of hours workers scheduled and their relationship to task completion and adjust the desired schedule to benefit the command.

c. Four/Ten Split

The split work week also minimizes the drawbacks with a transition to an alternative work week because all days' weekdays are work days' with at least half the personnel required to be fully functional. Functionality of the command is not diminished; only capacity is decreased by half.

6. Drawbacks–Schedule

a. Four/Ten

There are many changes from the current system that may be seen as drawbacks. When a Holiday shift is required due to Monday holidays there is a four day weekend provided. Under the current system 96 hour liberties are only authorized by O-6 and higher. If there were a shift to this alternative work week there would be a need to authorize Commanding Officers at all ranks the ability to authorize the necessary 96 hours liberties.

b. Floating

Drawbacks to a floating workweek include difficulties in scheduling meetings or training. Other drawbacks include the management of qualifications and the ensuing junior senior competition for the most desirable time off.

c. Four/Ten Split

The Split work week provides the greatest drawback to flexibility because there will be rotating work hours for the two halves of the squadron. This rotating schedule may lead to confusion but with careful attention from supervisors can be minimized.

7. Drawbacks–Flexibility

a. Four/Ten

The four/ten alternative work time arrangement is the least flexible because it assumes that all workers are available four days a week. The gains from this alternative can be diminished by any worker requiring more flexibility to care for family or other tasks that are generally accommodated for. This loss in productive work time is increased because each day taken for personal reasons loses greater productive work hours.

b. Floating

The floating work time arrangement is the most beneficial to workers in reference to flexibility but may be infeasible because of the nature of military tasks.

c. Four/Ten Split

Given that there is a division of force this alternative workweek will present challenges to leaders in deciding which members are assigned to different teams. A comparison of the NSW in terms of volume of work completed, flexibility, and the schedule conflicts of the proposed alternate workweeks is represented in Table 12. Green indicates an improvement in the category, yellow shows a marginal change either up or down and red indicates a loss in the category when compared to the NSW.

The volume is depicted as green in both the Four/Ten and the Split Four/Ten due to the demonstrated increased hours of productive work of 22.31 hours per month per sailor. The Floating alternative is yellow due to the smaller gain of 10.2 hours per month.

Flexibility was determined to be diminished at the service member level in both Four/Ten proposals due to the more rigid requirements imposed by a four day workweek. This is due in part because any worker requiring more flexibility to say, care for family, would result in a loss in productive work time which is compounded each day compromised. The Floating alternative was found to be the most flexible at the member level by its very definition.

In this table the schedule is depicted as it pertains to the command as a whole in such terms as meetings or command wide functions like a urinalysis sweep. Both of the Four/Ten alternatives presented marginal diminished returns due to the limited days per week the command personnel would be required to be present. The floating option presents significant problems in the scheduling category due to gains demonstrated in flexibility. Command meetings and high priority functions would require significant management under this alternative.

The Floating Alternative Workweek seems to be the least desirable due to the relatively low increase in volume of work and the meticulous nature of the required management. Both Four/Ten alternatives offer a significant increase in the volume of work per service member and seem to offer sufficient flexibility to garner the required buy-in but will require a greater level of supervisory management in order to insure the command can meet its mission while enjoying the benefit of increased productivity.

8. Summary

This chapter introduced three alternative workweeks: Four/Ten, Four/Ten Split and Floating. It describes how each was examined using Volume, Schedule, and Flexibility and provides possible benefits and drawbacks for each parameter studied.

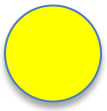
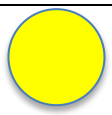
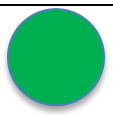
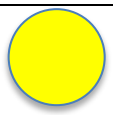
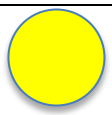
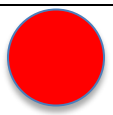
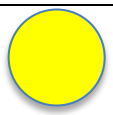
	ALTERNATIVE WORKWEEKS			
Benefits	Standard Work Week	Four/Ten	Floating	Split
Volume of Work Completed				
Flexibility				
Schedule				

Table 12. Stop light of Alternative Workweeks

IV. IMPLEMENTATION PROCESS AND FEASIBILITY

A. IMPLEMENTING A NON-STANDARD WORKWEEK

Before instituting or initiating a new standard workweek, it is imperative to diagnose the current organizational culture and rate the effectiveness of the current work schedule. Shifting an organization from one set of working hours to another is not merely as simple as putting up a new schedule. The schedule of work and process of how things are routinely accomplished are part of the culture and the inherent social norms. The Organizational Cultural Assessment Instrument (OCAI) is a research method based on the Competing Values Framework developed by Kim Cameron and Robert Quinn used to examine organizational culture and provides steps in which to change that culture. The OCAI is marketed as a tool for civilian institutions and firms that are looking to make cultural changes within the organization to meet new demands and shift external environments. The challenges facing the Navy are reduced budgets, personnel constraints and increasing requirements and amidst all these challenges the Navy must maintain its' current readiness and meet future demands. A successful implementation of a non-standard workweek and a cultural shift that combat these challenges at the unit level, may be the first step in reducing costs and increasing efficiency (OCAI 2010).

"The Competing Values Framework was initially developed using research conducted on the major indicators of effective organization." (Cameron and Quinn 2006) It utilizes indicators of organizational effectiveness that have been formatted in to two competing dimensions; flexibility and discretion versus stability and control and internal focus/integration versus external focus/differentiation. These two dimensions form four quadrants that represent what is valued in the organizations performance and define the core values and what is good, right and appropriate. The four quadrants of the competing values framework are Clan (collaborative), Adhocracy (creative), Hierarchy (control) and Market (competitive) as shown in Figure 7 (Cameron and Quinn 2006).

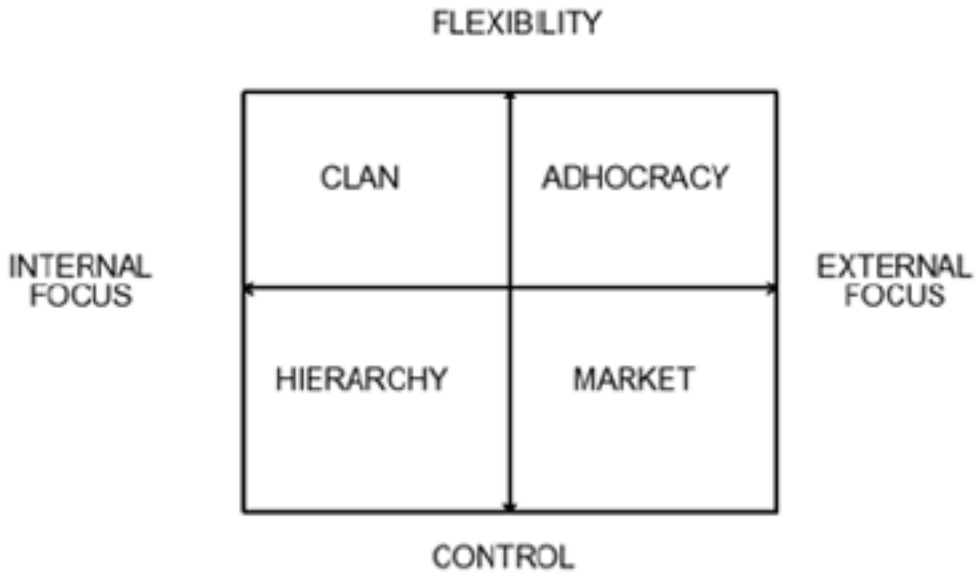


Figure 7. Competing Values Framework

The hierarchy culture is characterized as a structured work environment with rules and procedures that govern what people do and how they do it. Leaders are expected to be efficient and coordinating and organizing and maintaining a smooth running organization. Government/Department of Defense and large corporations are examples of typical hierarchy cultures. They value structure and many have multiple hierarchy layers of leadership. Hierarchy cultures are known for their controlling environments.

The market culture is characterized by competition and a drive to win. Success in a market culture defined by gaining market share and increased profits and its leaders are expected to be hard-driving producers in and external environment with fierce competition.

The clan culture is characterized by its' sense of family and we-ness. In contrast to the hierarchy and market cultures, clan focuses on teamwork, employee involvement and corporate commitment to employees. Leaders can be viewed as mentors or even parents and the team succeeds or fails together.

The adhocracy culture is just as the root word implies, temporary. They can be characterized by change and innovation. They are characterized by the ability to be

flexible, adaptable and creative. Leadership in the adhocracy culture is characterized as visionary, innovative and risk oriented.

The OCAI if utilized properly can provide an organization with a true representation of where they are as a culture, where they would like to be and a realistic approach on how to get there. Things that must be considered when assessing the culture are the environment, external and internal, the constraints the organization must operate within, the requirements that an organization has with regard to productivity and how the organization is viewed by leadership as well as subordinate level personnel. If an organization looks to change its culture and move toward one quadrant to another, it must examine the availability of resources in which to make change. Resources come in the form of capital, time, personnel, leadership and innovative technology among others. The OCAI address's an organizations culture and captures a snap shot of its core values. Understanding the culture through using this tool may possibly lend itself to a roadmap for change within that organization.

1. Process

Utilizing the OCAI and the competing values framework the Navy can adjust the nine-step process to meet the specific requirements and uniqueness of being a government entity.

Step 1. Potential change recommendations and the OCAI process are briefed to the Commanding Officer, Executive Officer and the Command Master Chief. Utilizing an outside or organic change agent, gather inputs from leadership and subordinates to determine what the current culture is, and evaluate the effectiveness of the current workweek. Every unit in the Navy, whether operational or support, has a core mission of supporting the war fighter or war effort directly or indirectly. Determine if the present culture and processes in place support this mission to the max extent possible.

Step 2. Using the same inputs determine what the preferred future organizational culture looks like. Based on the challenges listed above what does the organization look like in the future to be highly successful? How can we be the best that we've ever been

given the constraints on money and people? Evaluate what a proposed alternate workweek does to move our organization in that direction.

Step 3. Determine what changes will and will not mean within the unit. By changing the workweek and ultimately the culture, what does that look like from a leadership position and from a subordinate position? A Navy unit has certain mandates and rules that allow it to function and maintain good order and discipline. It is paramount that any changes made do not jeopardize good order and discipline and maintain the established chain of command.

Step 4. Identify a strategic action agenda. With the implementation of an alternate workweek, what processes and procedures can be or must be redesigned in order to facilitate change? Determine if there are any additional resources that must be obtained in order to be successful and determine the immediate environmental factors unique to the unit or organization. Navy units range in size and location and are unique in their day-to-day operations; therefore implementation must be tailored to the individual unit to meet the desired goals. Even though manning decisions are made from a centralized position, no two units have the same manning or interpersonal dynamics as another. Thus, no two units will have the same reaction to the implementation of a non-standard workweek and its accompanying culture shift.

Step 5. Identify small wins. Although the Navy is predominantly a hierarchical culture, it will require buy in from the sailors, Chief Petty Officers and officer leadership if the alternate workweek is going to succeed. Most importantly the sailors will need to see small victories that show them the process is working and is beneficial to them as well as the unit. Determine what changes can be made to the physical environment that make the change more feasible and appealing. Focus on some of the easy things that can be changed and visible actions that give the impression of change. These may come in the form of visible calendars that accentuate the time off for sailors, posted maintenance reports that show an increase in productivity or a sailor utilizing extra time off to spend with family.

Step 6. Identify leadership implications. One of the unique attributes about any Navy command is the fact that no one person remains in a position of leadership more than 33 months. Identifying a change leader may be difficult because of current manning practices. It is important to note that there are competencies which are required and help to implement change. The change agent can identify these competencies with the help of the leadership in place and devise a training plan to exemplify these traits for current and future leaders.

Step 7. Identify metrics, measures and milestones to maintain accountability and track progress. The desired end state in this process is to reduce costs and increase efficiency. Budget expenditures on every level are tracked by the Navy comptroller and are an easy metric to validate the financial benefits of implemented changes. Efficiency is directly related to the particular mission of the unit. One example is a unit responsible for maintaining and flying aircraft and is required to sustain a particular state of readiness under a prescribed set of constraints such as people and money; then those metrics should be relatively simple to track as well.

Step 8. Identify a communication strategy that is effective at informing all members of the organization of why and how the changes are going to be implemented. The Commanding Officer is responsible for communicating his vision and goals to the organization. The commanding officer is also responsible for utilizing all feedback to promulgate modifications to the change plan and gauge the level of buy in from all levels in the organization. Without effective communication up and down the chain of command there is no way to discern if the process is effective or not (Cameron and Quinn 2006).

B. FEASIBILITY AND CULTURE

The monetary costs and additional resources appear feasible to implement an alternative workweek. An aviation command ashore cannot and will not be required to add additional personnel in order effect change; in fact, if the organization can continue the mission with the same or greater efficiency with fewer personnel it will provide statistical proof for a reduced footprint based on the alternate workweek. Should the

alternate workweek produce less than expected results or a cultural change that is adverse to the mission requirements of the unit, little or no effort is required to revert to the standard workweek. What may not be feasible is the possible second and third order affects felt by supporting or subordinate commands. No one organization in the Navy is a stand-alone unit. Every organization is either responsible for supporting multiple subordinate units or shares responsibilities and mission requirements with similar units. By altering the culture and workweek of one unit alone, it could shift short-term responsibilities and leave gaps that may not be accounted for until all similar units incorporate a similar change process.

There are multiple possible reasons for resistance and failure when implementing the alternate workweek. The first being, the Navy is not only steeped in tradition but like any other large organization, the culture and social norms have taken many years and generations to develop what they are today. The Navy can be broken down into warfare areas i.e., surface, aviation, sub-surface etc., and then even further as you get down to specific units. A destroyer is significantly different in culture, operations and schedule from an aircraft carrier and a jet squadron differs dramatically from a helicopter squadron in the same regards. Each one of these specific units has built its' processes and "way of doing business" over many years with inputs from sailor's, Chiefs and Officers and regulations put in place by big Navy. Every Ship and every Squadron has its' unique way in which it does things and most of the sailors, particularly senior ones have known and learned those processes and business techniques over a long period of time. When an individual transfers from one unit to another, they are expected to adapt to the new units way of doing business. Professor John Kotter has outlined several reasons why organizations fail to change in the midst of actively trying to do so. Kotter outlines eight specific reasons, several of which are relevant to the Navy or any other government organization (Kotter 2007).

(1) Not establishing a sense of urgency is the first error leaders can make when trying to create change. Although the change or changes are not always monumental, if urgency is not established by the leadership, it is almost impossible to get the organization to follow. Without urgency and motivation sailors and other members of

the organization are going to remain with the status quo. The Chiefs mess is a strong and necessary leadership group within an organization but without prompting it will be difficult to drive them out of their comfort zone of what has "always worked."

(2) Not creating a powerful enough coalition within and outside of the organization to promote change. Every Commanding Officer in the Navy has a reporting senior as well as others that report to them. Not only is it paramount to recruit the support of those within the organization but those in organizations that you support and support you so they don't feel abandoned when the processes they are accustomed to change.

(3) Lack of vision. Senior leadership must understand the current organization and have a specific vision of what the organization should look like after the transformation. This vision must be simply stated and understood by all members of the organization. Each member must understand their role and the intended end state or goal.

(4) Although sailors have sworn under oath to follow the orders of the Officers appointed over them; for any significant schedule or cultural change to be effective it will require buy in from the sailors on the deck plates. By instituting a plan that shows small wins for the sailors in the early stages of change, the organization increases its' chances to be successful. As stated earlier, some of those small wins will come in the form of a less demanding work schedule and incentivized time off.

(5) The new changes and the new work schedule must be institutionalized to ensure they continue to become the new culture and the new process. If the changes only appear to be the smoke and mirror of the "new" Commanding Officer, the old culture and the old ways of doing business are likely to take over again.

(6) There are many factors to examine when determining when or if to institute cultural or schedule changes within an organization. The OCAI and the factors listed by Prof. Kotter provide us the tools to determine how and when to implement those changes and how to gauge the effectiveness of those changes (Kotter 2007).

C. SUMMARY

This chapter describes the background of the OCAI and a brief discussion of the Competing Values Framework by Cameron and Quinn and associated research. The Navy is an extremely large and diverse organization with multiple cultures and sub-cultures. The OCAI may be a valuable tool to use the unit level as the Navy attempts to change culture and increase its organizational efficiency.

V. CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

Currently the United States Navy provides Commanding Officers a large amount of discretion on the day to day operations within their commands. No hard requirement exists for daily routines; therefor culture is the driver of current business practices regarding the workday. Chapters I through III provide a brief background on the United States Navy's interest in increasing output and efficiency while maintaining or increasing a higher standard of living and increased morale amongst its' sailors. This project examined the current Navy Standard Workweek (NSW) and three alternatives that may increase organizational effectiveness and efficiency while maintaining or increasing work-life standards for personnel in a Navy shore-based unit. The three alternatives were developed based on the same assumptions used in the formulation of the Navy Standard Workweek per the OPNAVINST 1000.16K. They were each evaluated on changes in work productivity, flexibility and schedule compared to the standard. This provided a list of viable alternatives for future implementation. The feasibility of implementing one of the alternative workweeks as well as providing a process to do so and possible challenges that may be encountered is outlined in Chapter IV. It examined how the culture must be assessed in order to understand where the organization is and desires to be in the future. This project provides follow on recommendations for future studies and implementation of an alternate workweek.

B. CONCLUSIONS AND RECOMMENDATIONS

1. Can productive work be increased by altering the Navy Standard Workweek?

a. Conclusion

After thorough examination, there is a high probability that the implementation of an alternate workweek will provide some gains in productive work. This increase may result in cost savings, organizational gains in professionalism of the work force and

retention of quality personnel. These benefits are sought after by private industry and should also be a focus of the United States Navy.

b. Recommendation

The researchers recommend that Naval leadership implement the Four/Ten Split alternate workweek at a shore based activities as appropriate. This will increase volume of work while maximizing coverage of the standard calendar workweek.

2. How can the alternate workweek be implemented?

a. Conclusion

An alternate workweek has not been implemented to determine the actual gains and losses or define metrics used to gauge increased productive work.

b. Recommendation

It is recommended that alternative workweek execution be addressed at Perspective Commanding Officer/Prospective Executive Officer courses. Additional recommendations are to implement an efficiency monitoring program at a shore squadron or ashore activity.

3. Can implementing an alternative workweek increase productive work and improve retention with minimal culture change?

a. Conclusion

Changes in culture generally start with senior leadership. Formulating a plan for change in order to gain buy-in from the Chiefs Mess and deck plate through an alternate workweek could be implemented with moderate cultural change.

b. Recommendation

Before altering any work schedules or making any significant changes, the Organizational Cultural Assessment Instrument (OCAI) should be utilized by an independent agent, preferably another NPS graduate student, to assess the current culture and rate the feasibility of change within the designated organization.

C. FURTHER RESEARCH

Conduct further research using OCAI to assess the current culture of a proposed activity to assess changes to productivity using the recommended four/ten split alternate workweek.

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